

Repsol E&P USA Inc. Compliance with North Slope Areawide 2010 Competitive Oil and Gas Lease Sale Mitigation Measures and Lessee Advisories

Repsol Note: The leases being addressed are covered under the Mitigation Measures for the Beaufort Sea Areawide 2006A and the North Slope Areawide 2008. The analysis presented herein is for the most recent areawide sale, and these contain all conditions from both previous sales except for several mitigation measures for the Beaufort Sea Areawide 2006A sale. These missing measures and responses are attached to the end of this document.

AS 38.05.035(e) and the departmental delegation of authority provide the Director, Division of Oil and Gas (DO&G) ["Director"], with the authority to impose conditions or limitations, in addition to those imposed by statute, to ensure that a resource disposal is in the state's best interests. Consequently, to mitigate the potential adverse social and environmental effects of specific lease related activities, DO&G has developed mitigation measures and will condition plans of operation, exploration, or development and other permits based on these mitigation measures.

Lessees must obtain approval of a detailed plan of operations from the Director before conducting exploration, development, or production activities. A plan of operations must identify the sites for planned activities and the specific measures, design criteria, construction methods and operational standards to be employed to comply with the restrictions listed below. It must also address any potential geophysical hazards that may exist at the site.

These measures were developed after considering terms imposed in earlier competitive lease sales and comments and information submitted by the public, local governments, environmental organizations, and other federal, state, and local agencies. Additional measures will likely be imposed when lessees submit a proposed plan of operations.

Lessees must comply with all applicable local, state and federal codes, statutes and regulations, as amended, as well as all current or future ADNR area plans and recreation rivers plans; and ADF&G game refuge plans, critical habitat area plans, and sanctuary area plans within which a lease area is located. Lease activities must be consistent with the enforceable policies of the Alaska Coastal Management Program (ACMP), including statewide standards and the enforceable policies of an affected coastal district, as amended.

The Director may grant exceptions to these mitigation measures. Exceptions will only be granted upon a showing by the lessee that compliance with the mitigation measure is not practicable or that the lessee will undertake an equal or better alternative to satisfy the intent of the mitigation measure. Requests and justifications for exceptions must be included in the plan of operations. The decision whether to grant an exception will be made during the public review of the plan of operations.

Except as indicated, the mitigation measures do not apply to geophysical exploration on state lands; geophysical exploration activities are governed by 11 AAC 96.

Abbreviations mean: Alaska Department of Environmental Conservation (ADEC), Alaska Department of Fish and Game (ADF&G), Alaska Department of Labor and Workforce Development (ADLWD), Alaska Department of Natural Resources (ADNR), Alaska Oil and Gas Conservation Commission (AOGCC), ADNR Commissioner (Commissioner), Division of Mining, Land and Water (DMLW), Division of Oil and Gas (DO&G), Federal Aviation Administration (FAA), National Marine Fisheries Service (NMFS); North Slope Borough (NSB), North Slope Borough Municipal Code (NSBMC), Office of Habitat Management and Permitting (OHMP)¹, Office of Project Management and Permitting (OPMP); State Historic Preservation Officer

(SHPO), U.S. Army Corps of Engineers (USCOE), U.S. Coast Guard (USCG), and U.S. Fish and Wildlife Service (USFWS), U.S. Bureau of Land Management (BLM), and National Park Service (NPS).

A. Mitigation Measures

1. Facilities and Operations

a. A plan of operations must be submitted and approved before conducting exploration, development or production activities, and must describe the lessee's efforts to minimize impacts on residential, commercial, and recreational areas, Native allotments and subsistence use areas. At the time of application, lessee must submit a copy of the proposed plan of operations to all surface owners whose property will be entered.

A Plan of Operations is submitted.

b. Facilities must be designed and operated to minimize sight and sound impacts in areas of high residential, commercial, recreational, and subsistence use and important wildlife habitat. Methods may include providing natural buffers and screening to conceal facilities, sound insulation of facilities, or by using alternative means approved by the Director, in consultation with ADF&G and the NSB.

The proposed project is a temporary exploration drilling operation during winter in an area mostly used for subsistence use. All activities will be conducted in accordance with applicable local and state regulations and permits..

c. To the extent practicable, the siting of facilities will be prohibited within 500 feet of all fish-bearing streams and waterbodies and 1,500 feet from all current surface drinking water sources. Additionally, to the extent practicable, the siting of facilities will be prohibited within one-half mile of the banks of the main channel of the Colville, Canning, Sagavanirktok, Kavik, Shaviovik, Kadleroshilik, Echooka, Ivishak, Kuparuk, Toolik, Anaktuvuk and Chandler Rivers. Facilities may be sited within these buffers if the lessee demonstrates to the satisfaction of the Director, in consultation with ADF&G, that site locations outside these buffers are not practicable or that a location inside the buffer is environmentally preferred. Road, utility, and pipeline crossings must be consolidated and aligned perpendicular or near perpendicular to watercourses.

Activities are associated with exploration drilling and no permanent facilities will be constructed as part of these operations. There will be drilling activities within 500 ft of various distributary channels of the Colville River, fishbearing streams and lakes, but these activities will occur during winter when the streams, rivers and lakes are frozen. There are no known activities within 1,500 ft of drinking water sources. All activities at and in the vicinity of the Colville River will be conducted with applicable permits and approvals from the North Slope Borough and State of Alaska.

Specific distances for each site are discussed as follow:

Kachemach #1-Located about 2,400 ft (0.45 mi) NNW of unnamed tributary of the Miluveach River. A waiver is neither required nor requested for this site.

Qugruk #1-Located in the Colville River floodplain (virtually the entire Colville River delta can be seasonally flooded during breakup and fall storms). The site and general area is low (5-7 ft elevation) and flat. The site straddles a slightly higher area between two shallow ponds. A small, shallow distributary channel of the Colville River passes within about 150 ft of the E corner of the pad. The current pad location appears to be in the optimum location and on the western boundary for drilling to the geological objectives and the surface location cannot be moved in other directions (N, S, and E) without encountering water bodies. The entire area should be completely frozen to the pond/stream bottom at the time of drilling. A waiver is requested for this location.

Qugruk #2- Located in the Colville River floodplain approximately 1,320 ft (0.25 mi) SW of the Elaktoveach Channel within the Colville River delta. The Elaktoveach Channel probably does not freeze to the channel bottom in this area. The site is located at about the SW zone for drilling and encountering the desired geological targets and is also outside of the 500 ft buffer from waterbodies. The proximity to the channel and other waterbodies decreases to the N, E and S. A waiver is requested if needed for this site.

Qugruk #3- Located in the Colville River floodplain and is about 550 ft E of the Kupigruak Channel. The main channel of the Colville River is approximately 2,100 ft (0.4 miles) to the SE. The site is on an unvegetated area of the delta and cannot be moved E, S, or W without getting closer to the Kupigruak Channel or the main channel of the Colville River. The area to the north is a vegetated island which was reportedly the site of an historic battle between several groups. Archeological surveys were conducted for the proposed site, but not for the area to the north, which Repsol prefers to avoid if at all possible. A waiver is requested for this site.

Qugruk #4- Located offshore of the Colville River delta in approximately 4 feet of water. The closest land is about 2.5 miles to the SSE and the placement of the well in marine waters is unavoidable. A waiver is requested if needed for this site.

d. No facilities will be sited within one-half mile of identified Dolly Varden overwintering and/or spawning areas on the Canning, Shaviovik, and Kavik rivers. Notwithstanding the previous sentence, road and pipeline crossings may only be sited within these buffers if the lessee demonstrates to the satisfaction of the Director and ADF&G in the course of obtaining their respective permits, that either (1) the scientific data indicate the proposed crossing is not within an overwintering and/or spawning area; or (2) the proposed road or pipeline crossing will have no significant adverse impact to Dolly Varden overwintering and/or spawning habitat.

See above response.

e. Impacts to important wetlands must be minimized to the satisfaction of the Director, in consultation with ADF&G and ADEC. The Director will consider whether facilities are sited in the least sensitive areas. Further, all activities within wetlands require permission from the US Army Corps of Engineers (see Lessee Advisories).

This is a temporary winter use and applicable agencies are being consulted..

f. Exploration facilities, including exploration roads and pads, must be temporary and must be constructed of ice unless the Director determines that no practicable alternative exists. Re-use of abandoned gravel structures may be permitted on a case-by-case basis by the Director, after consultation with the director, DMLW, and ADF&G. Approval for use of abandoned structures will depend on the extent and method of restoration needed to return these structures to a usable condition.

Ice pads and roads are being used. No gravel structures are being constructed at this time.

g. Pipelines must utilize existing transportation corridors where conditions permit. Pipelines must be designed to facilitate the containment and cleanup of spilled fluids. Where practicable, onshore pipelines must be located on the upslope side of roadways and construction pads, unless the director, DMLW, determines that an alternative site is environmentally acceptable. Wherever possible, onshore pipelines must utilize existing transportation corridors and be buried where soil and geophysical conditions permit. All pipelines, including flow and gathering lines, must be designed, constructed and maintained to assure integrity against climatic conditions, geophysical hazards, corrosion and other hazards as determined on a case-by-case basis.

Not applicable-not currently a production project.

h. Pipelines shall be designed and constructed to avoid significant alteration of caribou and other large ungulate movement and migration patterns. At a minimum, above-ground pipelines shall be elevated 7 feet, as measured from the ground to the bottom of the pipe, except where the pipeline intersects a road, pad, or a ramp installed to facilitate wildlife passage. Lessees shall consider increased snow depth in the sale area in relation to pipe elevation to ensure adequate clearance for wildlife. ADNDR may, after consultation with ADF&G, require additional measures to mitigate impacts to wildlife movement and migration.

Not applicable-not currently a production project.

i. The state of Alaska discourages the use of continuous-fill causeways. Environmentally preferred alternatives for field development include use of buried pipelines, onshore directional drilling, or elevated structures. Approved causeways must be designed, sited, and constructed to prevent significant changes to nearshore oceanographic circulation patterns and water quality characteristics (e.g., salinity, temperature, suspended sediments) that result in exceedances of water quality criteria, and must maintain free passage of marine and anadromous fish.

ii. Causeways and docks shall not be located in river mouths or deltas. Artificial gravel islands and bottom founded structures shall not be located in river mouths or active stream channels on river deltas, except as provided for in (iii).

iii. Each proposed structure will be reviewed on a case-by-case basis. Causeways, docks, artificial gravel islands and bottom founded structures may be permitted if the Director, in consultation with ADF&G, ADEC, and the NSB determines that a causeway or other structures are necessary for field development and that no practicable alternatives exist. A monitoring program may be required to address the objectives of water quality and free passage of fish, and mitigation shall be required where significant deviation from objectives occurs. (See also Lessee Advisories regarding U.S. Army Corps of Engineers requirements.)

Not applicable-no permanent structures are being constructed.

j. Dismantlement, Removal and Rehabilitation (DR&R): Upon abandonment of material sites, drilling sites, roads, buildings or other facilities, such facilities must be removed and the site rehabilitated to the satisfaction of the Director, unless the Director, in consultation with DMLW, ADF&G, ADEC, NSB, and any non-state surface owner, determines that such removal and rehabilitation is not in the state's interest.

No permanent structures are being constructed. All wells proposed will be plugged and abandoned in accordance with agency requirements prior to departing the site at the completion of the drilling season (April 2012). (Note: This supersedes what is indicated on Page 10 of the Plan of Operations.)

k. Gravel mining sites required for exploration and development activities will be restricted to the minimum necessary to develop the field efficiently and with minimal environmental damage. Where practicable, gravel sites must be designed and constructed to function as water reservoirs for future use. Gravel mine sites required for exploration activities must not be located within an active floodplain of a watercourse unless the director, DMLW, after consultation with ADF&G, determines that there is no practicable alternative, or that a floodplain site would enhance fish and wildlife habitat after mining operations are completed and the site is closed. Mine site development and rehabilitation within floodplains must follow the procedures outlined in McLean, R. F. 1993, North Slope Gravel Pit Performance Guidelines, ADF&G Habitat and Restoration Division Technical Report 93-9, available from ADF&G.

Not applicable-no gravel mining is proposed.

2. Fish and Wildlife Habitat

a. Detonation of explosives within or in proximity to fish-bearing waters must not produce instantaneous pressure changes that exceed 2.7 pounds per square inch in the swim bladder of a fish. Detonation of explosives within or in close proximity to a fish spawning bed during the early stages of egg incubation must not produce a peak particle velocity greater than 0.5 inches per second. Blasting criteria have been developed by ADF&G and are available upon request from ADF&G. The location of known fish-bearing waters within the project area can also be obtained from ADF&G. The lessee will consult with the NSB prior to proposing the use of explosives for seismic surveys. The Director may approve the use of explosives for seismic surveys after consultation with the NSB.

Not applicable-activities not proposed.

b. Water intake pipes used to remove water from fish-bearing waterbodies must be surrounded by a screened enclosure to prevent fish entrainment and impingement. Screen mesh size shall be no greater than 1 mm (0.04 inches), unless another size has been approved by ADF&G. The maximum water velocity at the surface of the screen enclosure may be no greater than 0.1 foot per second, unless an alternative velocity has been approved by ADF&G.

This stipulation will be followed if water is removed from fish-bearing waterbodies.

c. Removal of snow from fish-bearing rivers, streams and natural lakes shall be subject to prior written approval by ADF&G. Compaction of snow cover overlying fish-bearing waterbodies is prohibited except for approved crossings. If ice thickness is not sufficient to facilitate a crossing, ice or snow bridges may be required.

Some water and ice chips may however be removed from grounded portions of some lakes with appropriate ADNR and ADF&G approvals.

d. Bears:

i. Before commencement of any activities, lessees shall consult with ADF&G (907-459-7213) to identify the locations of known brown bear den sites that are occupied in the season of proposed activities. Exploration and production activities must not be conducted within one-half mile of occupied brown bear dens, unless alternative mitigation measures are approved by ADF&G. A lessee who encounters an occupied brown bear den not previously identified by ADF&G must report it to the Division of Wildlife Conservation, ADF&G, within 24 hours. Mobile activities shall avoid such discovered occupied dens by one-half mile unless alternative mitigation measures are approved by the Director, with concurrence from ADF&G. Non-mobile facilities will not be required to relocate.

ii. Before commencement of any activities, lessees shall consult with the USFWS (907-786-3800) to identify the locations of known polar bear den sites. Operations must avoid known polar bear dens by 1 mile. A lessee who encounters an occupied polar bear den not previously identified by USFWS must report it to the USFWS within 24 hours and subsequently avoid the new den by 1 mile. If a polar bear should den within an existing development, off-site activities shall be restricted to minimize disturbance. iii. For projects in proximity to areas frequented by bears, lessees are required to prepare and implement a human-bear interaction plan designed to minimize conflicts between bears and humans.

The plan should include measures to:

- A. minimize attraction of bears to facility sites;
- B. organize layout of buildings and work areas to minimize interactions between humans and bears;
- C. warn personnel of bears near or on facilities and the proper actions to take;

- D. if authorized, deter bears from the drill site;
- E. provide contingencies in the event bears do not leave the site;
- F. discuss proper storage and disposal of materials that may be toxic to bears; and
- G. provide a systematic record of bears on the site and in the immediate area.

Repsol has included a Bear Interaction plan with their permit applications and it addresses these issued. These mitigation measures will be followed.

e. Permanent, staffed facilities must be sited to the extent practicable outside identified brant, white-fronted goose, snow goose, tundra swan, king eider, common eider, Steller's eider, spectacled eider, and yellow-billed loon nesting and brood rearing areas.

Not applicable-not a permanent development and activities not occurring when waterfowl are present.

3. Subsistence, Commercial and Sport Harvest Activities

- a.
 - i. Exploration, development and production operations shall be conducted in a manner that prevents unreasonable conflicts between lease-related activities and subsistence activities. Lease-related use will be restricted when the Director determines it is necessary to prevent conflicts with local subsistence, commercial and sport harvest activities. In enforcing this term DO&G will consult with other agencies, the affected local borough(s) and the public to identify and avoid potential conflicts that are brought to the division's attention both in the planning and operational phases of lease-related activities. In order to avoid conflicts with subsistence, commercial and sport harvest activities, restrictions may include alternative site selection, requiring directional drilling, seasonal drilling restrictions, and other technologies deemed appropriate by the Director.

The general area is in an area where subsistence activities would occur. There have been several meetings with local residents including KSOP during both June and July 2011, and they have indicated that the general area is used for subsistence activities including fishing in early winter and winter seal hunting. All ice roads are located to avoid blocking river channels for winter fish movement. The offshore ice roads and pads are in shallow water and adjacent areas will mostly be grounded to the seafloor and not be habitat for seals.

Recent conversations with Larry Moulton, the local fish expert, indicate that the primary subsistence fish is the Arctic Cisco. According to Mr. Moulton, the Arctic Cisco generally move into the deeper channels in the Colville River system where they typically overwinter; at this time the Arctic Cisco is also a key species for subsistence activities. The subsistence fishing ends in early winter (usually in December). Ice road construction may commence in December, but most construction activities will likely not occur until January and the drilling operations will not commence until late January or early February, there should be negligible conflicts between the operations and subsistence users.

- ii. Prior to submitting a plan of operations for either onshore or offshore activities which have the potential to disrupt subsistence activities, the lessee shall consult with the potentially affected subsistence communities and the NSB (collectively "parties") to discuss the siting, timing, and methods of proposed operations and safeguards or mitigating measures which could be implemented by the operator to prevent unreasonable conflicts. The parties shall also discuss the reasonably foreseeable effect on subsistence activities of any other operations in the area that they know will occur during the lessee's proposed operations. Through this consultation, the lessee shall make reasonable efforts to assure that exploration, development, and production activities are compatible with subsistence hunting and fishing activities and will not result in unreasonable interference with subsistence harvests.

There have been two village meetings in Nuiqsut and we believe most concerns have been addressed .

iii. A discussion of agreements reached or not reached during the consultation process and any plans for continued consultation shall be included in the plan of operations. The lessee shall identify who participated in the consultation and send copies of the plan to participating communities and the NSB when it is submitted to the division.

Repsol meetings with the Kuukpikmuit Subsistence Oversight Panel (KSOP) and the village of Nuiqsut occurred on June 28 and July 26. Both KSOP meetings had a quorum of the board members and the Nuiqsut meetings both had 50+/- attendees. A presentation was also given to the North Slope Borough Planning Commission on July 28 in Barrow with representatives of all communities in attendance personally or by phone.

iv. If the parties cannot agree, then any of them may request the Commissioner of DNR or his/her designee to intercede. The commissioner may assemble the parties or take other measures to resolve conflicts among the parties.

Repsol does not see this as an issue.

v. The lessee shall notify the Director of all concerns expressed by subsistence hunters during operations and of steps taken to address such concerns.

The primary concerns included barriers to fish passage in the winter as a result of blocking river channels by an ice road and possible impacts to seal hunting.

Repsol conducted an extensive survey of the river and offshore channel areas. It is reported that some of the channel areas are used for fishing especially in the early winter; we understand that these activities normally end by the end of December. The offshore ice roads (about 30 miles) had no channels present and the maximum water depths were typically 1-3 feet with a maximum depth of less than 5 ft. These areas would naturally freeze to the seafloor and construction of a grounded ice road is expected to cause minimal and temporary impacts that would occur naturally in winter.

The shallow waters of the project area will mostly have bottomfast ice which should not be compatible with the presence of seals.

Road construction activities will commence in either December or January and drilling will occur beginning either in late January or February. Subsistence fishing activities should either finishing up or occurring in areas where channels are deeper and there is plenty of habitat for the fish. We understand seal hunting activities can be occurring during this time period, but that they will be occurring further offshore from the drilling activities where the water is sufficient depth to provide a suitable seal habitat beneath the ice.

b. Traditional and customary access to subsistence areas shall be maintained unless reasonable alternative access is provided to subsistence users. "Reasonable access" is access using means generally available to subsistence users. Lessees will consult the NSB, nearby communities, and native organizations for assistance in identifying and contacting local subsistence users.

During the winter operations, Repsol will have local Subsistence Representatives onsite to avoid these potential issues.

4. Fuel, Hazardous Substances and Waste

a. Secondary containment shall be provided for the storage of fuel or hazardous substances.

Repsol will comply with this mitigation measure.

b. Containers with an aggregate storage capacity of greater than 55 gallons which contain fuel or hazardous substances shall not be stored within 100 feet of a waterbody, or within 1,500 feet of a current surface drinking water source.

Repsol will comply with this mitigation measure. There are no known drinking water sources in the immediate area.

c. During equipment storage or maintenance, the site shall be protected from leaking or dripping fuel and hazardous substances by the placement of drip pans or other surface liners designed to catch and hold fluids under the equipment, or by creating an area for storage or maintenance using an impermeable liner or other suitable containment mechanism.

Repsol will comply with this mitigation measure.

d. During fuel or hazardous substance transfer, secondary containment or a surface liner must be placed under all container or vehicle fuel tank inlet and outlet points, hose connections, and hose ends. Appropriate spill response equipment, sufficient to respond to a spill of up to five gallons, must be on hand during any transfer or handling of fuel or hazardous substances. Trained personnel shall attend transfer operations at all times.

Repsol will comply with this mitigation measure.

e. Vehicle refueling shall not occur within the annual floodplain, except as addressed and approved in the plan of operations. This measure does not apply to water-borne vessels.

Repsol will comply with this mitigation measure.

f. All independent fuel and hazardous substance containers shall be marked with the contents and the lessee's or contractor's name using paint or a permanent label.

Repsol will comply with this mitigation measure.

g. A fresh water aquifer monitoring well, and quarterly water quality monitoring, is required down gradient of a permanent storage facility, unless alternative acceptable technology is approved by ADEC.

Not applicable-there are no permanent storage facilities.

h. Waste from operations must be reduced, reused, or recycled to the maximum extent practicable. Garbage and domestic combustibles must be incinerated whenever possible or disposed of at an approved site in accordance with 18 AAC 60. (See Lessee Advisories, ADEC.)

Repsol will comply with this mitigation measure.

i. New solid waste disposal sites, other than for drilling waste, will not be approved or located on state property during the exploration phase of lease activities. Disposal sites may be provided for drilling waste if the facility complies with 18 AAC 60. (See Lessee Advisories, ADEC.)

Repsol will comply with this mitigation measure.

j. The preferred method for disposal of muds and cuttings from oil and gas activities is by underground injection. Drilling mud and cuttings cannot be discharged into lakes, streams, rivers, or important wetlands. On pad temporary cuttings storage will be allowed as necessary to facilitate annular injection and/or backhaul operations. Impermeable lining and diking, or equivalent measures, will be required for reserve pits. Surface discharge of drilling muds and cuttings into reserve pits shall be allowed only when the Director, in consultation with ADF&G, determines that alternative disposal methods are not practicable. Injection of non-hazardous oilfield wastes is regulated by AOGCC through its Underground Injection Control (UIC) Program for oil and gas wells. See also Mitigation Measure 8.a.vi.

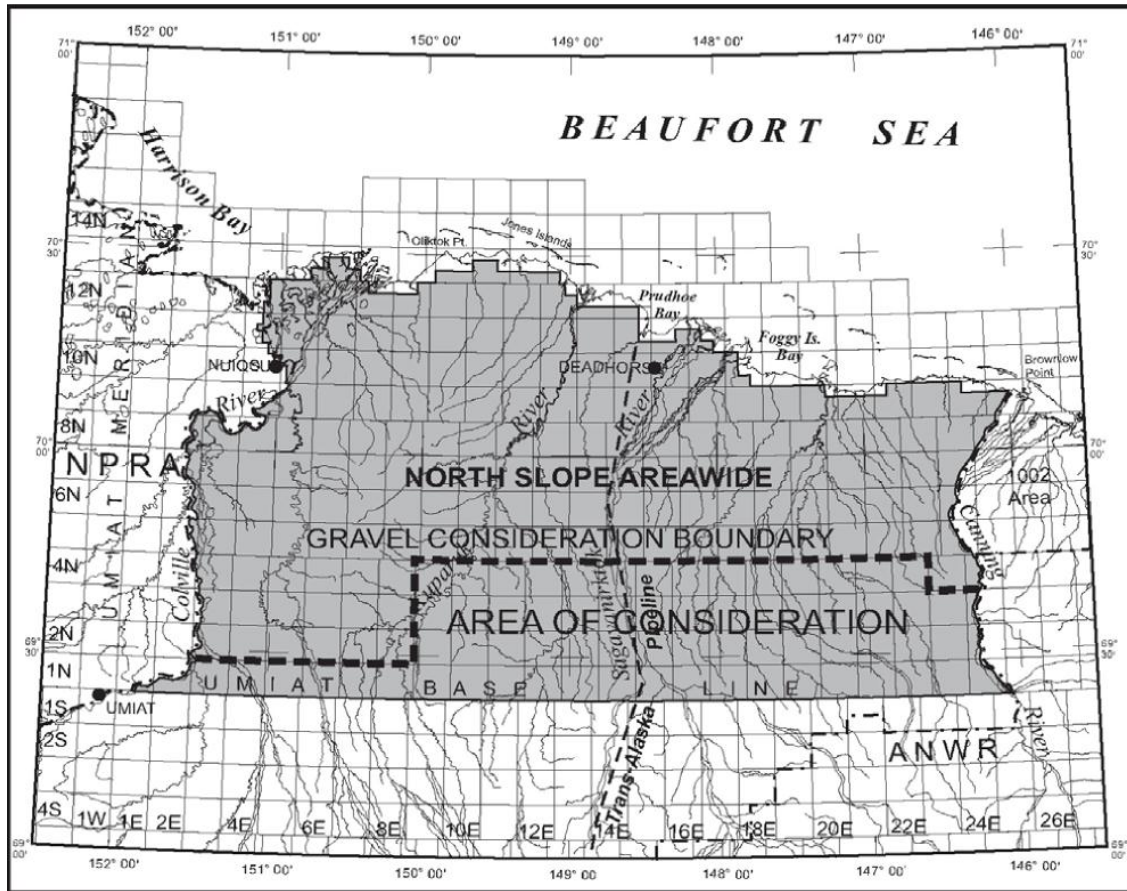
Repsol will either haul muds and cuttings to the PBU G&I facility or use annular injection onsite with appropriate approvals.

k. Proper disposal of garbage and putrescible waste is essential to minimize attraction of wildlife. The lessee must use the most appropriate and efficient method to achieve this goal. The primary method of garbage and putrescible waste is prompt, on-site incineration in compliance with state of Alaska air quality regulations. The secondary method of disposal is on-site frozen storage in animal-proof containers with backhaul to an approved waste disposal facility. The tertiary method of disposal is on-site non-frozen storage in animal proof containers with backhaul to an approved waste disposal facility. Daily backhauling of non-frozen waste must be achieved unless safety considerations prevent it.

Repsol will comply with this mitigation measure.

5. Access

a. Except for approved off-road travel, exploration activities must be supported only by ice roads, winter trails, existing road systems or air service. Wintertime off-road travel across tundra and wetlands may be approved in areas where snow and frost depths are sufficient to protect the ground surface. Summertime off-road travel across tundra and wetlands may be authorized subject to time periods and vehicle types approved by DMLW. Exceptions may be granted by the director of the DMLW, and the Director, if an emergency condition exists; or, if it is determined, after consulting with ADF&G that travel can be accomplished without damaging vegetation or the ground surface. Exceptions, including the use of gravel, may also be granted on a site specific basis, if it is determined, after consulting with ADF&G and DMLW, that no practicable alternatives exist for constructing an exploration road or pad in the area south of the boundary described below and depicted in the map below:



and historic uses of such sites; evidence of consultation with the Alaska Heritage Resources Survey and the National Register of Historic Places; and site surveys. The inventory must also include a detailed analysis of the effects that might result from the activity.

This work was completed for the project area.

b. The inventory of prehistoric, historic, and archeological sites must be submitted to the Director, and to SHPO who will coordinate with the NSB for review and comment. If a prehistoric, historic, or archeological site or area could be adversely affected by a lease activity, the Director, after consultation with SHPO and the NSB, will direct the lessee as to the course of action to take to avoid or minimize adverse effects.

This work was completed for the project area.

c. If a site, structure, or object of prehistoric, historic, or archaeological significance is discovered during lease operations, the lessee must report the discovery to the Director as soon as possible. The lessee must make reasonable efforts to preserve and protect the discovered site, structure, or object from damage until the Director, after consultation with the SHPO and the NSB, has directed the lessee as to the course of action to take for its preservation.

This work was completed for the project area.

7. Local Hire, Communication, and Training

a. Lessees are encouraged to employ local and Alaska residents and contractors, to the extent they are available and qualified, for work performed in the lease area. Lessees shall submit, as part of the plan of operations, a proposal detailing the means by which the lessee will comply with the measure. The proposal must include a description of the operator's plans for partnering with local communities to recruit, hire and train local and Alaska residents and contractors. The lessee is encouraged, in formulating this proposal, to coordinate with employment and training services offered by the State of Alaska and local communities to train and recruit employees from local communities.

Repsol will have local contractors such as Kuukpik Corporation and plans to have them working on the project planning.

b. A plan of operations application must describe the lessee's past and prospective efforts to communicate with local communities and interested local community groups.

Repsol will comply with this mitigation measure.

c. A plan of operations application must include a training program for all personnel including contractors and subcontractors. The program must be designed to inform each person working on the project of environmental, social, and cultural concerns that relate to that person's job. The program must use methods to ensure that personnel understand and use techniques necessary to preserve geological, archeological, and biological resources. In addition, the program must be designed to help personnel increase their sensitivity and understanding of community values, customs, and lifestyles in areas where they will be operating.

All contractors will be required to have NSTC Training to work on the project. This training includes discussions of these issues

8. Definitions

a. In this document:

i. “Facilities” means any structure, equipment, or improvement to the surface, whether temporary or permanent, including, but not limited to, roads, pads, pits, pipelines, power lines, generators, utilities, airstrips, wells, compressors, drill rigs, camps and buildings;

ii. “Important wetlands” means those wetlands that are of high value to fish, waterfowl, and shorebirds because of their unique characteristics or scarcity in the region or that have been determined to function at a high level using the hydrogeomorphic approach;

iii. “Minimize” means to reduce adverse impacts to the smallest amount, extent, duration, size, or degree reasonable in light of the environmental, social, or economic costs of further reduction;

iv. “Plan of operations” means a lease Plan of operations under 11 AAC 83.158 and a unit Plan of operations under 11 AAC 83.346;

v. “Practicable” means feasible in light of overall project purposes after considering cost, existing technology, and logistics of compliance with the standard;

vi. “Secondary containment” means an impermeable diked area or portable impermeable containment structure capable of containing 110 percent of the volume of the largest independent container plus 12 inches of freeboard. Double walled tanks do not qualify as Secondary Containment unless an exception is granted for a particular tank.

vii. “Temporary” means no more than 12 months.

These definitions are noted.

B. Lessee Advisories

Lessees must comply with all applicable local, state, and federal codes, statutes, and regulations, as amended. Lessee Advisories alert lessees to additional restrictions that may be imposed at the permitting stage of a proposed project or activity where entities other than DO&G have permitting authority.

1. DNR/ADF&G

a. Under the provisions of Title 41 of the Alaska Statutes, the measures listed below may be imposed by ADF&G below the ordinary high water mark to protect designated anadromous fish-bearing lakes and streams and to ensure the free and efficient passage of fish in all fish-bearing water bodies. Exceptions to these requirements, including exceptions for the use of spill containment and recovery equipment, may be allowed on a case-by-case basis. Specific information on the location of anadromous water bodies in and near the area may be obtained from ADF&G.

i. Alteration of riverbanks may be prohibited.

ii. The operation of equipment, excluding boats, in open water areas of rivers and streams may be prohibited.

iii. Bridges or non-bottom founded structures may be required for crossing fish spawning and important rearing habitats.

iv. Culverts or other stream crossing structures must be designed, installed, and maintained to provide free and efficient passage of fish.

Repsol will contact ADF&G Habitat Department to obtain necessary permits for the project.

b. Removal of water from fish-bearing water bodies requires prior written approval by DMLW and ADF&G. Regulations for Appropriation and Use of Water are subject to the provisions of 11 AAC 93.035 - 11 AAC 93.147.

A permit application has been filed with the ADNR for removal of water from fishbearing lakes.

c. The Director, in consultation with ADF&G, may impose seasonal restrictions on activities located in, or requiring travel through or overflight of, important caribou or other large ungulate calving and wintering areas during the plan of operations approval stage.

Not applicable-aviation operations are not planned for the project.

d. The Director, in consultation with ADF&G, may impose seasonal restrictions on activities located in and adjacent to important waterfowl and shorebird habitat during the plan of operations approval stage.

Not applicable-activities will occur in winter when waterfowl and shorebirds are not present in the area.

e. To minimize impacts on Dolly Varden (arctic char) overwintering areas, permanent, staffed facilities must be sited to the extent practicable outside identified Dolly Varden overwintering areas.

Repsol believes we are in compliance with this advisory.

f. Lessees are advised that certain areas are especially valuable for their concentrations of marine birds, marine mammals, fishes, or other biological resources; cultural resources; and for their importance to subsistence harvest activities. The following areas of special biological and cultural sensitivity must be considered when developing plans of operation: the Canning River Delta; the Colville River Delta; and the Sagavanirktok River Delta.

Repsol will be working in the Colville River Delta and most work will be in the late winter when marine birds, marine mammals and general subsistence activities are limited.

g. Lessees are encouraged in planning and design activities to consider the recommendations of oil filed design and operations in the final report to the Alaska Caribou Steering Committee: Cronin, M. et al., 1994. "Mitigation of the Effects of Oil Field Development and Transportation Corridors on Caribou." LGL Alaska Research Associates, Inc., July.

Not applicable-only having short-term temporary operations.

h. Lessees must comply with the provision of Appendix B of the "Yellow-billed Loon Conservation Agreement," dated July 31, 2006, between ADF&G, ADNR, USFWS, BLM, and NPS.

Not applicable-not present in the area when operations are occurring.

2. DNR/OPMP

a. Pursuant to Alaska Statutes, applicants for lease are required to comply with all policies and enforceable standards of the Alaska Coastal Management Program, including the District Coastal Management Plans.

Not applicable-the organization no longer exists.

3. ADEC

a. Pursuant to AS 46.04.030, lessees are required to have an approved oil discharge prevention and contingency plan (C-Plan) prior to commencing operations. The plan must include a response action plan to describe how a spill response would occur, a prevention plan to describe the spill prevention measures taken at the facility, and supplemental information to provide background and verification information.

A C-Plan will be filed and approved for the project.

b. Air Pollution Emissions:

i. Because of the state's interest in clean air, lessees are encouraged to adopt conservation measures to reduce hydrocarbon vapor emissions, especially methane because it is a greenhouse gas. Wasting natural gas is contrary to state law implemented by the Alaska Oil and Gas Conservation Commission.

ii. Lessees are advised that new processing facilities containing gas turbine engines may require an air permit under 18 AAC 50.302, including submitting a Best Available Control Technology (BACT) analysis for review under Part C of the Clean Air Act. Any BACT analysis submitted for gas turbine engines must include a full analysis of: 1) the installation of combined cycle turbines and / or use of co-generation applications; and 2) the potential treatment and use of produced water for water or steam injection into turbines to reduce formation of nitrogen oxides. Historical assumptions about the feasibility, economics, and energy impacts of these technologies are no longer generally valid.

iii. The state has a growing interest in quantifying the emissions of greenhouse gases from any proposed oil and gas production facility. ADEC may require that emission calculations of greenhouse gases be provided at the same time as the calculations of traditionally regulated air pollutants when a lessee is applying for an Air Quality construction permit. Lessees are encouraged to adopt facility designs that minimize or eliminate greenhouse gas emissions.

iv. The state recognizes that in the long run sources of energy other than oil and gas will be needed. Lessee participation in conducting research on alternative energy sources is appreciated.

Not applicable for this phase of the project.

c. Wastewater disposal (per Clean Water Act, 33 U.S.C. 1251 et seq):

i. Unless authorized by NPDES or state permit, disposal of wastewater into freshwater bodies, including Class III, IV, VI and VIII wetlands, is prohibited.

Repsol will be in compliance with these regulations if these activities are conducted.

ii. Unless authorized by an ADEC permit, surface discharge of reserve pit fluids and produced waters is prohibited.

Not applicable-activities not proposed.

iii. If authorized by ADEC and EPA, disposal of produced waters in upland areas, including wetlands, will be by subsurface disposal techniques. ADEC may permit alternate disposal methods if the lessee demonstrates that subsurface disposal is not practicable.

Repsol will be in compliance with these regulations if these activities are conducted.

iv. Discharge of produced waters into open or ice-covered marine waters of less than ten meters in depth is prohibited. The commissioner, ADEC, may approve discharges into waters greater than ten meters in depth based on a case-by-case review of environmental factors and consistency with the conditions of a state certified development and production phase NPDES permit issued for the sale area.

Not applicable-activities not proposed.

4. ADLWD

a. The Lessee shall facilitate Alaska resident hire monitoring by reporting project wages on a quarterly basis for each individual employed by the Lessee in the lease area, through electronic unemployment insurance reporting, and by requiring the same of the lessee's contractors and subcontractors.

Repsol will comply with this advisory as required.

5. USCOE

a. A USCOE permit is required when work is anticipated on, in, or affects navigable waters or involves wetland-related dredge or fill activities. A Section 10 Permit addresses activities that could obstruct navigation. Oil and gas activities requiring this type of permit include exploration drilling from a jackup drill rig, installation of a production platform, or construction of a causeway. A Section 404 Permit authorizes the discharge of dredged and fill material into waters and wetlands of the United States. The process and concerns are similar for both permits and, at times, both may be required.

Repsol does not require a USCOE permit for the project.

6. USFWS

a. Lessees are advised that the Endangered Species Act of 1973 (ESA), as amended (16 U.S.C. 1531 et seq.) protects endangered and threatened species and candidate species for listing that may occur in the lease sale area. Lessees shall comply with the Recommended Protection Measures developed by the USFWS to ensure adequate protection for all endangered, threatened and candidate species.

Table 7.1: Endangered and Threatened Species that occur in or adjacent to the lease sale area

Common Name ESA Status

- a. Bowhead whale Endangered
- b. Spectacled eider Threatened
- c. Steller's eider (Alaska breeding population) Threatened
- d. Polar bear Threatened

Polar Bears may be present in the area and Repsol has developed a Bear Interaction Plan and is requesting a letter of authorization from the USF&WS.

b. In order to ensure compliance with the MBTA, it is recommended that Lessees survey the project area prior to construction, vegetation clearing, excavation, discharging fill or other activities which create disturbance, and confirm there are no active migratory bird nests. It is recommended Lessees contact the U.S. Fish and Wildlife Service for assistance and guidance on survey needs, and other compliance issues under the Migratory Bird Treaty Act. While the Service can recommend methods (such as surveys and timing windows) to avoid unintentional take, responsibility for compliance with the MBTA rests with Lessees.

Not applicable-activities will not occur in the area during the period when this is a concern.

c. Lessees are advised that they must comply with the provisions of the Marine Mammal Protection Act of 1972, as amended (16 USC 1361-1407). USFWS shares authority for marine mammals with the NMFS.

See response to item "a" above.

d. Peregrine falcon nesting sites are known to occur in the sale area. Lessees are advised that disturbing a peregrine falcon nest violates federal law. Lessees are required to comply with the federal resource recovery plan for the arctic peregrine falcon.

Not applicable-activities will not occur in the area during the period when this is a concern.

7. NMFS

a. Lessees are advised that they must comply with the provisions of the Marine Mammal Protection Act of 1972, as amended (16 USC 1361-1407). NMFS shares authority for marine mammals with the USFWS.

Not applicable-activities will not occur in the area during the period when this is a concern.

8. NSB

a. Lessees are advised that the NSB Assembly has adopted a comprehensive plan and land management regulations under Title 29 of the Alaska Statutes (AS 29.40.020-040). The NSB regulations require borough approval for all proposed uses, development and master plans. The (North Slope Borough Coastal Management Plan) NSBCMP policies are included as part of the NSB zoning regulations (Title 19) and all NSB permit approvals will require the proposal to be substantially consistent with these policies.

Repsol is obtaining appropriate permits and approvals from the NSB.

b. Access: Lessees are advised that restricting access to and use of fish camps and other subsistence use areas defined in the NSB Traditional Land Use Inventory, may violate NSBCMP and NSBMC subsistence harvest protection and land use regulations. Lessees are advised to consult with the NSB Planning Department and local communities during planning of operations.

Repsol is obtaining appropriate permits and approvals from the NSB.

c. Community Participation in Operations Planning: Lessees are encouraged to bring one or more residents of communities in the area of operations into their planning process. Local communities have a unique understanding of their environment and community activities. Involving local community residents in the earliest stages of the planning process for oil and gas activities can be beneficial to the industry and to the community. Community representation on management teams developing plans of operation, oil spill contingency plans, and other permit applications can help communities understand permitting obligations and help industry to understand community values and expectations for oil and gas operations being conducted in and around their area.

Repsol will be hiring local native corporations to conduct work at the project location. This includes use of local Subsistence Representatives to monitor proposed activities.

d. Aircraft Restrictions: In order to protect species that are sensitive to noise or movement, horizontal and vertical buffers will be required, consistent with aircraft, vehicle and vessel operations regulated by NSB Code §19.70.050(l)(1) which codifies NSBCMP policy 2.4.4.(a). Lessees are encouraged to apply the following provisions governing aircraft operations in and near the sale area:

- i. From June 1 to August 31, aircraft overflights must avoid identified brant, white fronted goose, tundra swan, king eider, common eider, and yellow-billed loon nesting and brood rearing habitat, and from August 15 to September 15, the fall staging areas for geese, tundra swans, and shorebirds, by an altitude of 1,500 feet, or a lateral distance of 1 mile.
- ii. To the extent practicable, all aircraft should maintain an altitude greater than 1,500 feet or a lateral distance of 1 mile, excluding takeoffs and landings, from caribou and muskoxen concentrations. A concentration means numbers of animals in excess of the general density of those animals found in the area.
- iii. Human safety will take precedence over flight restrictions.

Not applicable-aviation operations are not planned.

C. Additional Mitigation Measures from the Beaufort Sea Areawide 2006A Sale

7. Subsistence Harvest Protection

15. f. Lease-related use will be restricted when the Director determines it is necessary to prevent unreasonable conflicts with subsistence harvests.

There are no conflicts that have currently been identified.

16. Whale Harvest Protection:

a. Permanent facility siting on Cross Island will be prohibited unless the lessee demonstrates to the satisfaction of the NSB in consultation with the AEWC, that the development will not preclude reasonable access to whales as defined in NSBCMP Policy 2.4.3(d)(1) and as may be determined in a conflict avoidance agreement, if required by the NSB.

Not applicable for this project.

b. Permanent facility siting in state waters within three miles of Cross Island will be prohibited unless the lessee demonstrates to the satisfaction of the director, in consultation with the NSB and the AEWC, that the development will not preclude reasonable access to whales as defined in NSBCMP Policy 2.4.3(d) and in NSBMC 19.79.050(d)(1) and as may be determined in a conflict avoidance agreement, if required by the NSB. With the approval of the NSB, the director may authorize permanent facilities.

Not applicable for this project.

c. Permanent facilities siting in state waters between the west end of Arey Island and the east end of Barter Island (Tracts 40 through 45) will be prohibited unless the lessee demonstrates to the satisfaction of the director, in consultation with the NSB and the AEWC, that the development will not preclude reasonable access to whales as defined in NSBCMP Policy 2.4.3(d) and in NSBMC 19.79.050(d)(1) and as may be determined in a conflict avoidance agreement, if required by the NSB.

Not applicable for this project.

17. Any tract or portion thereof in the Beaufort Sea areawide sale may be subject to the March 1990 Beaufort Sea Seasonal Drilling Policy in conjunction with the submission of a plan of operations permit application by the lessee. This measure will be reevaluated and updated periodically on the basis of experience and new information.

The sole tract covered under this requirement is being drilled with the Qugruk No. 4 well. This well is being drilled in winter solid ice conditions. **It is our understanding that the drilling policy referenced deals with conducting drilling operations during periods of subsistence whale hunting. The proposed drilling operations will occur during the late winter months (January through April) and would not coincide with the timing of subsistence whaling activities.**

a. Exploratory Drilling from Bottom-founded Drilling Structures and Natural and Gravel Islands: Subject to condition c below, exploratory drilling below a predetermined threshold depth and other downhole operations from floating drilling structures is prohibited throughout the Beaufort Sea upon commencement of the fall bowhead whale migration until the whale migration mid-point.²

Not applicable to this project-well is drilled from grounded ice pad.

b. Exploratory Drilling Operations from Floating Drilling Structures: Subject to condition C, exploratory drilling below a predetermined threshold depth and other downhole operations from floating drilling structures is prohibited throughout the Beaufort Sea upon commencement of the fall bowhead whale migration until the whale migration mid-point.

In addition to the above restriction, exploratory drilling above and below a predetermined threshold depth in the Eastern SWA from floating drilling structures is prohibited upon commencement of the fall bowhead whale migration until the whaling quotas have been met.

In the Central and Western SWZ, exploratory drilling above and below a predetermined threshold depth may be prohibited on a case-by-case basis until the whaling quotas have been met.³ The following criteria will be used to evaluate these operations: 1) proximity of drilling operations to active or whaling areas, 2) drilling operation type and possible drilling alternatives, 3) number of drilling operations in the same area, 4) number of whaling crews in the area, and 5) the operator's plans to coordinate activities with the whaling crews in accordance with the subsistence harvest protection mitigation measure.

All non-essential activities associated with drilling are prohibited in the Central SWZ during the whale migration until whaling quotas have been met. Essential support activity associated with drilling structures occurring within active whaling areas shall be coordinated with local whaling crews in accordance with the subsistence harvest protection mitigation measure.

¹Subsistence Whaling Zones:

Eastern SWZ is that area within 20 nautical miles of the shoreline between 141° and 144° W longitude

Central SWZ is that area within 20 nautical miles of the shoreline between 144° and 151° W longitude

Western SWZ is that area within 20 nautical miles of the shoreline between 154° and 157° W longitude

²Migration Dates:

Eastern SWZ - September 1 - October 10 with the midpoint of the migration on September 20.

Central SWZ and Western SWZ - September 10 to October 20 with the midpoint of the migration on

September 28

Outside SWZ - Seaward of the Eastern SWZ - September 10 - October 20 with the midpoint of the migration on September 28; Seaward and west of the Central SWZ- September 10 to October 20 with the midpoint of migration on September 28. The midpoint of the migration is when 50 percent of the whales have been deemed to have passed the drill site.

³If upon review of the proposed operation using the above described criteria, the state determines that conflict with subsistence whaling activities may occur, additional drilling restrictions, similar to those imposed for the eastern SWZ, may be imposed in the Central and Western SWZ's. In the Eastern SWA, drilling is prohibited upon commencement of the fall bowhead migration until whaling quotas have been met.

"Essential activities" include those necessary to maintain well control, maintain physical integrity of the drilling structure, and scheduled crew changes. Support craft include aircraft, boats, and barges. (Non-essential activity," by exclusion, are those activities that do not fit the definition of essential activities. Both types of activities must be described by the operators in their exploration plans submitted for state review. To the extent feasible, mobilization or demobilization of the drilling structures should not occur during the whale migration. If operators propose to mobilize or demobilize during the whale migration, they must describe the activity in their exploration plan and must demonstrate why the activity must occur during the migration period.

Not applicable to this project-well is drilled from grounded ice pad.

c. Exploratory Drilling in Broken Ice: consistent with the May 15, 1984, "Tier 2" decision, lessees conducting drilling operations during periods of broken ice must:

- (1) participate in an oil spill research program;
- (2) be trained and qualified in accordance with Minerals Management Service standards pertaining to well-control equipment and techniques; and
- (3) have an oil spill contingency plan approved by the state which meets the requirements of the "Tier 2" decision, including requirements for in situ igniters, fire resistant boom, relief well plans, and decision process for igniting an uncontrolled release of oil.

Not applicable to this project-well is not being drilled during broken ice.

18. Exploration, development and production activities located on lease tracts 1 through 26 shall be conducted in a manner that prevents unreasonable conflicts between oil and gas activities and subsistence whale hunting.

a. Prior to submitting a plan of operations for activities on lease tracts 1 through 26, the lessee shall consult with the North Slope Borough (NSB), the Alaska Eskimo Whaling Commission (AEWC), and the community of Kaktovik to discuss how the sating, timing, and methods of proposed operations can be planned and carried out to avoid potential conflicts with subsistence whale hunting. Through this consultation, which may include the negotiation of a conflict avoidance agreement, the lessee shall make every reasonable effort to ensure that their activities will not result in unreasonable interference with subsistence whale hunting.

b. A plan of operations for activities on lease tracts 1 through 26 shall include a discussion of the consultation process and any resulting conflict avoidance agreements. In the event that no agreement is reached, the lessee, the NSB, the AEWC, or the community of Kaktovik, may request that ADNRR call a meeting of representatives of the NSB, the AEWC, the community of Kaktovik, and the lessee to discuss the potential conflict caused by the proposed activities, and attempt to resolve the issues. If the parties are still unable to reach an agreement, then ADNRR will make a final determination of the measures proposed to be taken to prevent unreasonable interference with subsistence whale hunting.

Not applicable to this project-well is not in this area.

19. No restriction of public access to, or use of, the lease area will be permitted as a consequence of oil and gas activities except in the immediate vicinity of drill sites, buildings and other related facilities. Areas of restricted access must be identified and a rationale justifying the area restriction must be included in the plan of operations.

In earlier comments, Repsol has requested a 100 ft exclusion zone around drilling pads.